

Creating a culture of Quality

by embracing devops

Nayana Shetty
Tech Lead, Infrastructure Delivery
Financial Times



how to spend it



@shettyny



1. Testers to QAs
2. Using Devops practices
3. Sustaining the culture across teams

1. Testers to QAs

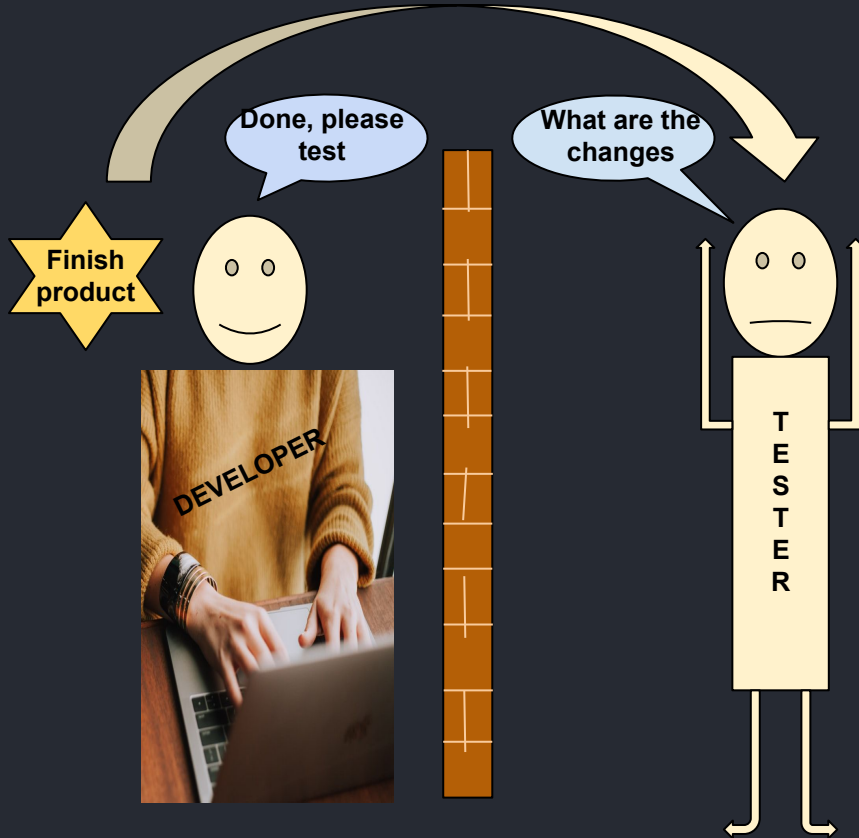


Challenges

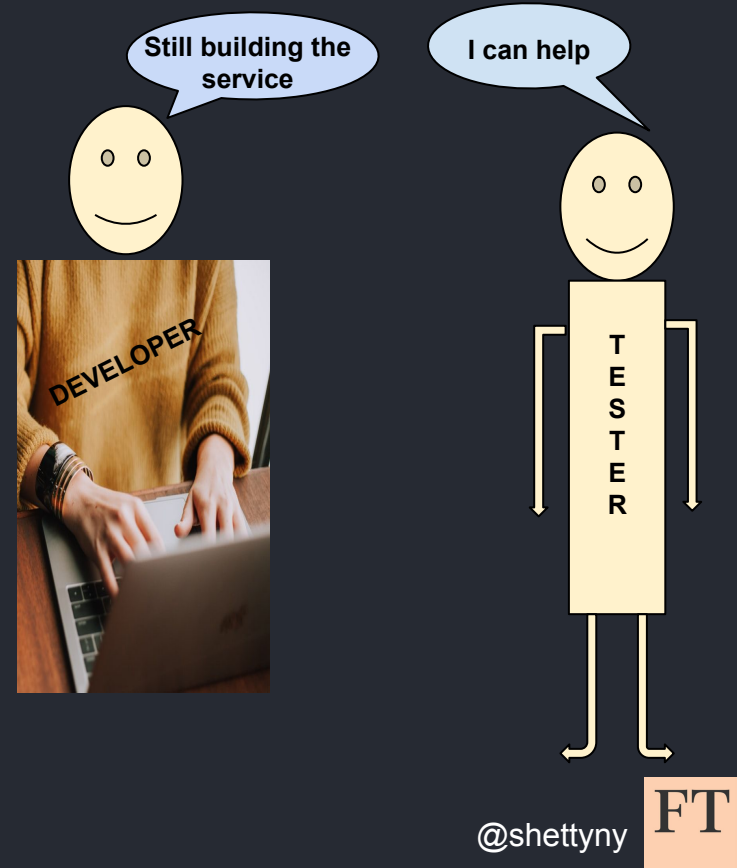


TEAMS & TESTERS

STOP



START





Empower, Embed, Engage

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Empower

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Embed

What about x

Why y

When z happens

How xxx interacts



Engage

Problem: Late to a meeting

Why?

Was Preparing for the meeting

Why?

Didn't do the prep before hand

Why?

Didn't plan well

Why?

Doing too many things

Why?

Didn't push back when it got too much

@michalynny

FT

ENGINEERING CHECKLIST 2.0

To Help You **Build The Right Product**
And **Build The Product Right**

This latest version of the engineering checklist is designed to be simple to follow and apply. Detailed below are the minimum set of activities which must be considered before, during and after building services. Each tile contains basic pointers for you to consider and apply along with a links to more information, clicking on the link icons will take you to more information. The aim is to ensure we achieve a minimum standard in delivery which helps protect the integrity of our offerings to our customers. [CHECKLIST SIMPLE TEXT VERSION](#)

1 Buy or Build

- Is there something out there that does what we need?
- Have you considered the total cost of ownership?



5 Security & Privacy

- Have you checked the Cyber Security Checklist?
- Fines for breaches start at €20 million



9 Release logs & CRs

- Automated release logs built into your CI job
- CRs raised for any changes applied manually



13 Cost Management

- Chose the right sized cloud instances for your product
- Power down what you don't need on



2 Technical Due Diligence

- Are you bringing in 3rd party products?
- Do we know enough about this entity?



6 Supplier DB updated

- Record supplier, contact and SLA information
- Needed by all support levels in case of issue



10 Runbook

- system code & service tier appropriate info supplied?
- your info will appear in dewey



- Review and update services to ensure they are in good shape
- Update the service and its information where needed



3 ASG Approval

- Introducing new technologies or design pattern?
- Do you need to do something not aligned to current strategy?



7 Customer Focused

- How does this impact our customers?
- How will they learn about it?
- Are we building solutions fit for their needs?



11 Healthcheck & Monitoring

- Make sure you cover basic availability as a minimum
- Service status endpoint via /__health



15 Support Rota

- For 3rd line support of your products
- Manage the rota within the team, keeping it up to date



4 Agree Service Tier

- What level of support will your product need?
- Understand the amount of engineering effort required



8 Analytics

- How will you measure the use of this?
- What are your targets for success?



12 Performance

- Define the performance SLAs for your product
- Measure and monitor performance



Feedback & Questions

- Speak to your QA Lead for any questions about using the checklist
- For general feedback, please send this to [redacted]

@shettyny



1

Buy or Build



- Is there something out there that does what we need?
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11 Healthcheck & Monitoring

- Make sure you cover basic availability as a minimum
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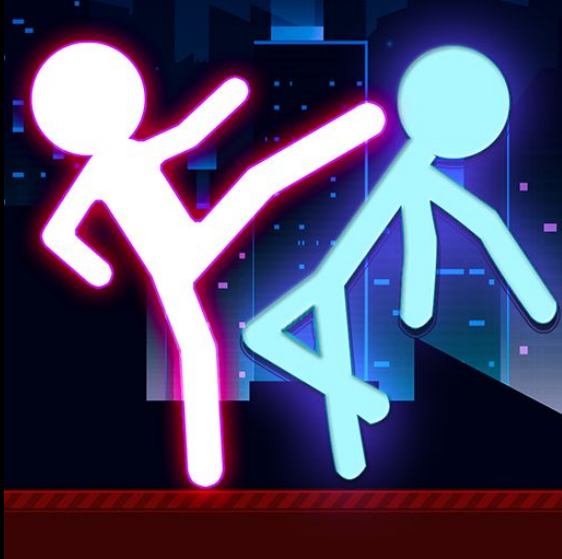


13

Cost Management

- Chose the right sized cloud instances for your product
- Power down what you don't need on






Stick or Carrot



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Assuring quality
Not a job position
But a role everyone do

THE SCIENCE OF DEVOPS
ACCELERATE

Building and Scaling High Performing
Technology Organizations



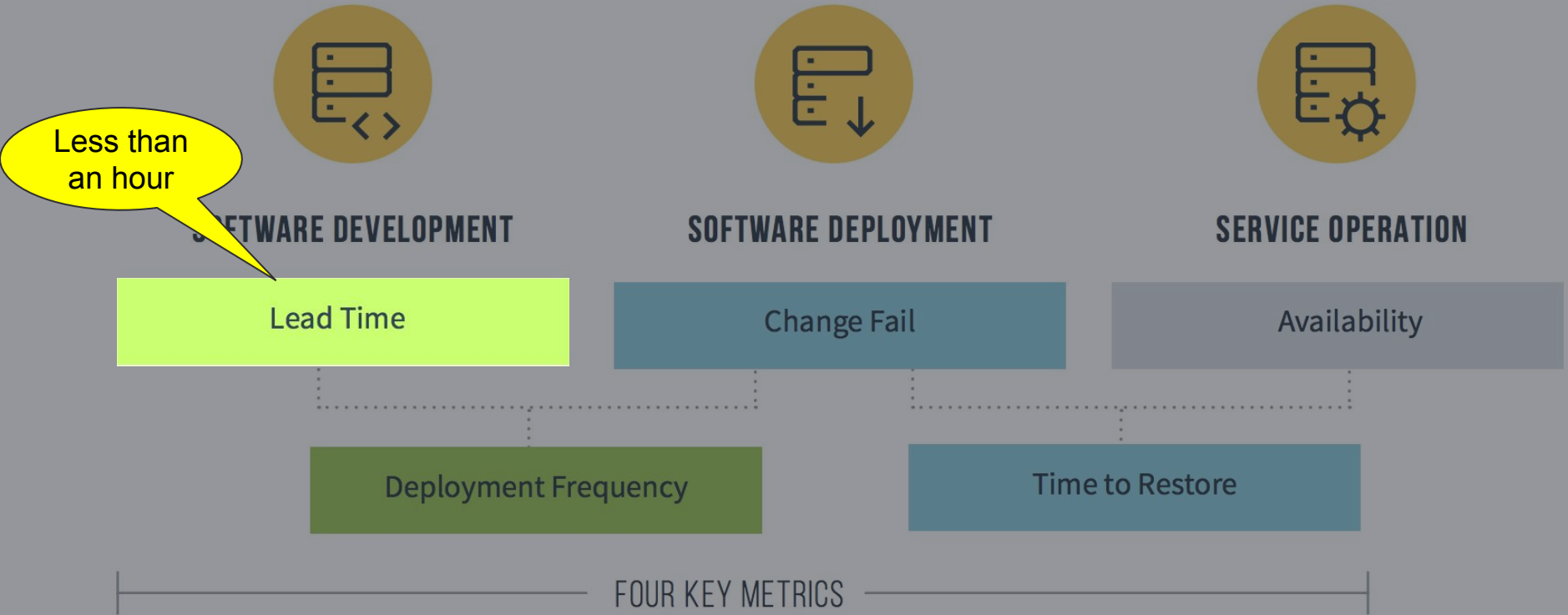
Nicole Forsgren, PhD
Jez Humble *and* Gene Kim

State of Devops, Accelerate book

@shettyyny



PERFORMANCE METRICS



Accelerate book: State of DevOps

@shettyyny



PERFORMANCE METRICS



SOFTWARE DEVELOPMENT

Lead Time



SOFTWARE DEPLOYMENT

Change Fail



SERVICE OPERATION

Availability

Deployment Frequency

Time to Restore

FOUR KEY METRICS

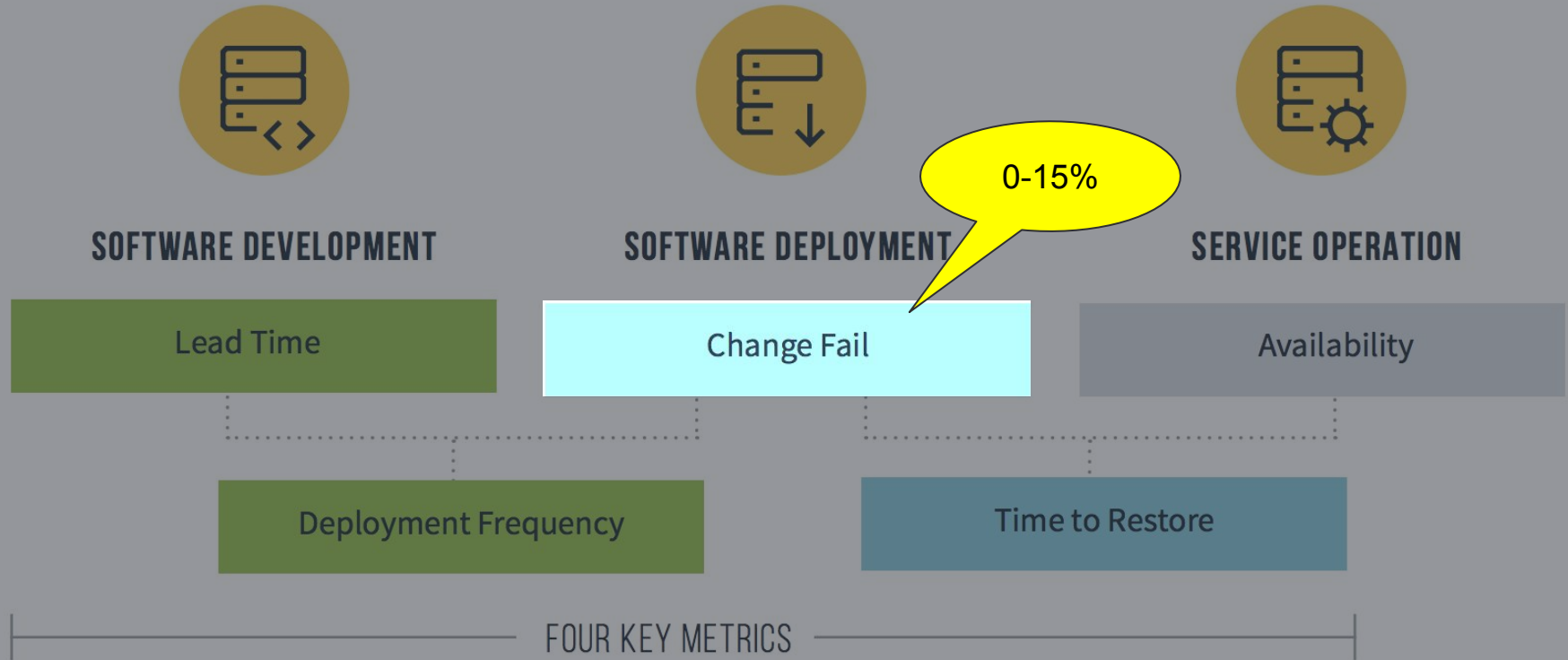
Multiple
times a day

Accelerate book: State of DevOps

@shetty



PERFORMANCE METRICS



Accelerate book: State of DevOps

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PERFORMANCE METRICS



SOFTWARE DEVELOPMENT

Lead Time



SOFTWARE DEPLOYMENT

Change Fail



SERVICE OPERATION

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FOUR KEY METRICS

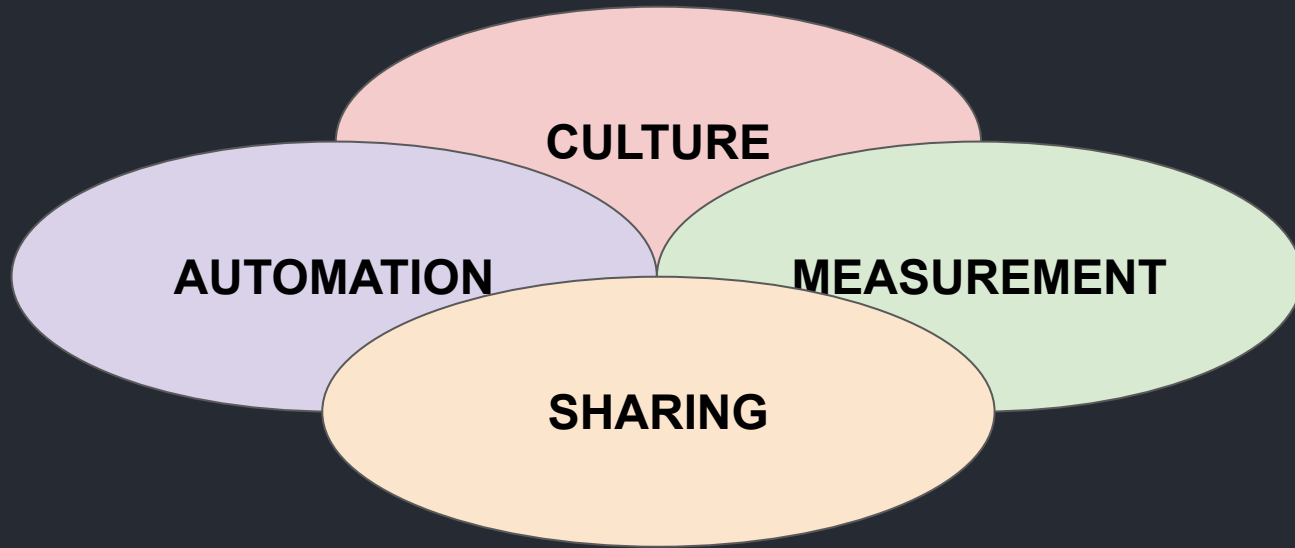
Less than
an hour

Accelerate book: State of DevOps

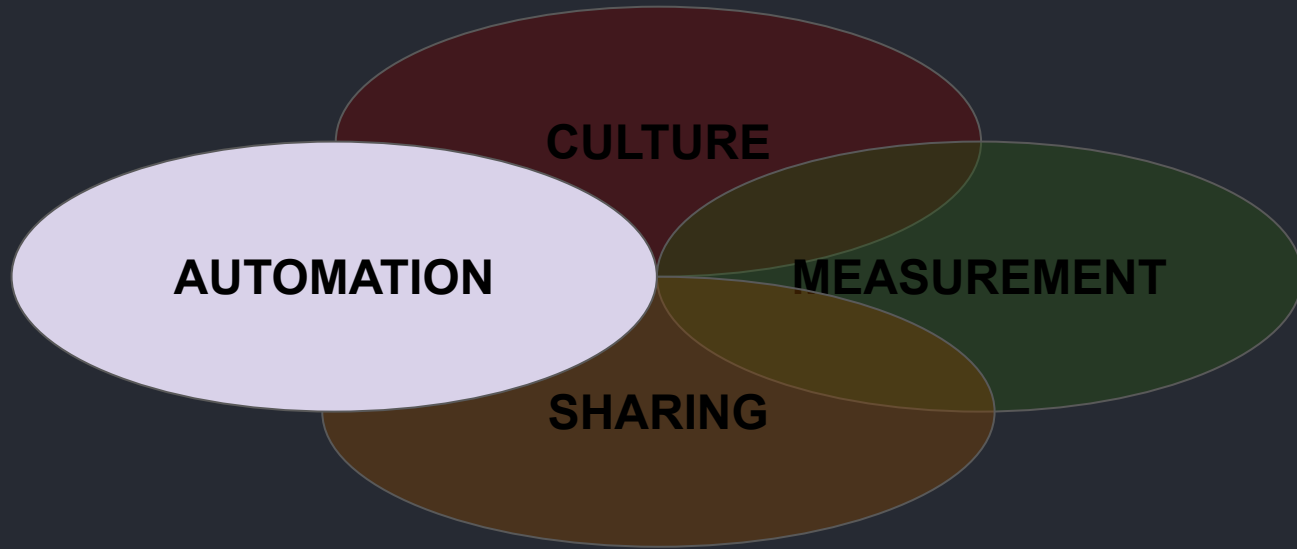
@shetty ny

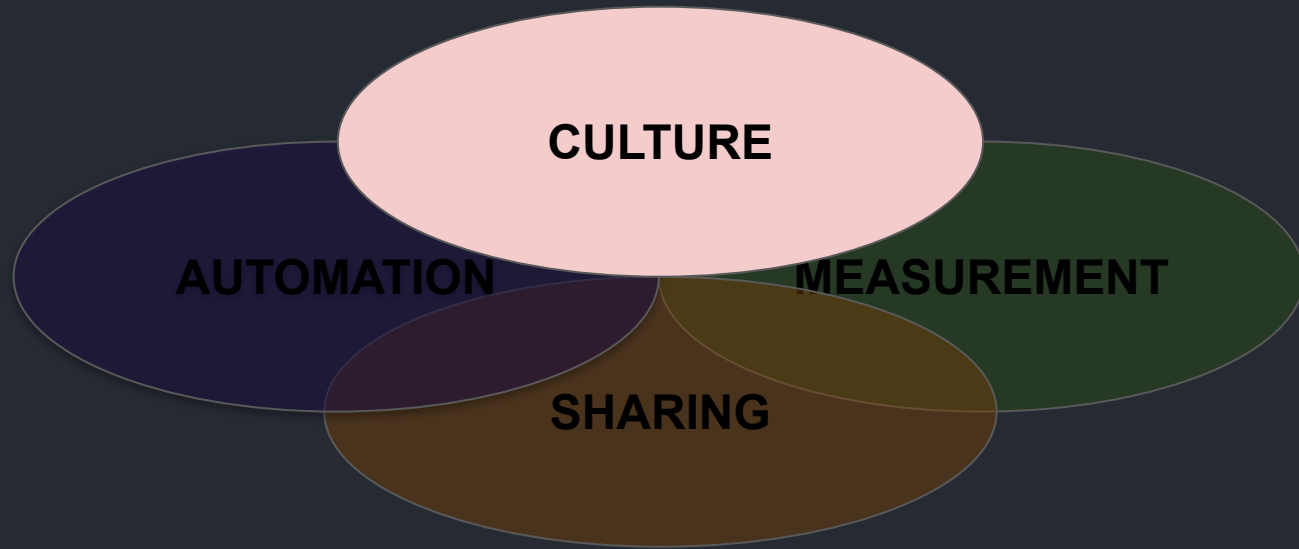


2. Using Devops practices



By: Damon Edwards, John Willis





CULTURE

Encourage 5 WHYs

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Creating a Psychologically Safe Space



Following a workshop in January 2019, the team came up with a set of guidelines for how we would like to work together. These guidelines are geared towards increasing a sense of [Psychological Safety](#) in simple terms **feeling safe to take risks or be wrong** within the team.

This is a living document - everyone in the team should feel free to add suggestions or improvements.

Things that we try to do

- Stay focused on the person who is speaking (e.g in meetings)
- Be an [active listener](#)
- Be approachable and available for other members of the team
- Value people's time
- Ask questions that help you or others to understand
- Ask for feedback and input from teammates; invite them to challenge your thinking
- Be willing to reflect on constructive criticism
- Share information about how you like to work (and be aware of how it might differ from other people's)
- Be open and honest about things that aren't working well
- Keep in mind the [ethical implications](#) of technology and how it is used

Things that we try not to do

- Blame individuals when things go wrong
- Talk over people
- Shout at each other (strong disagreement is fine)
- Point at people
- Belittle the opinions of others
- Defer to seniority when you know that something is not right
- Avoid difficult conversations
- Bear grudges

As a Senior in the team we will also try and set an example by

Ask for feedback, invite others
to challenge your thinking

Be open and honest about things that
aren't working well

Things that we try to do

Ask questions even if they are silly

Stay focused on the
person who is speaking

Value people's time

Blaming individuals for a failure of a service

Bear grudges

Talk over others

Things that we try not to do

Point at people

Avoid difficult conversations

Calling out good work by
other members around

Learning out loud

Admit when we
don't know things

As a senior in the team

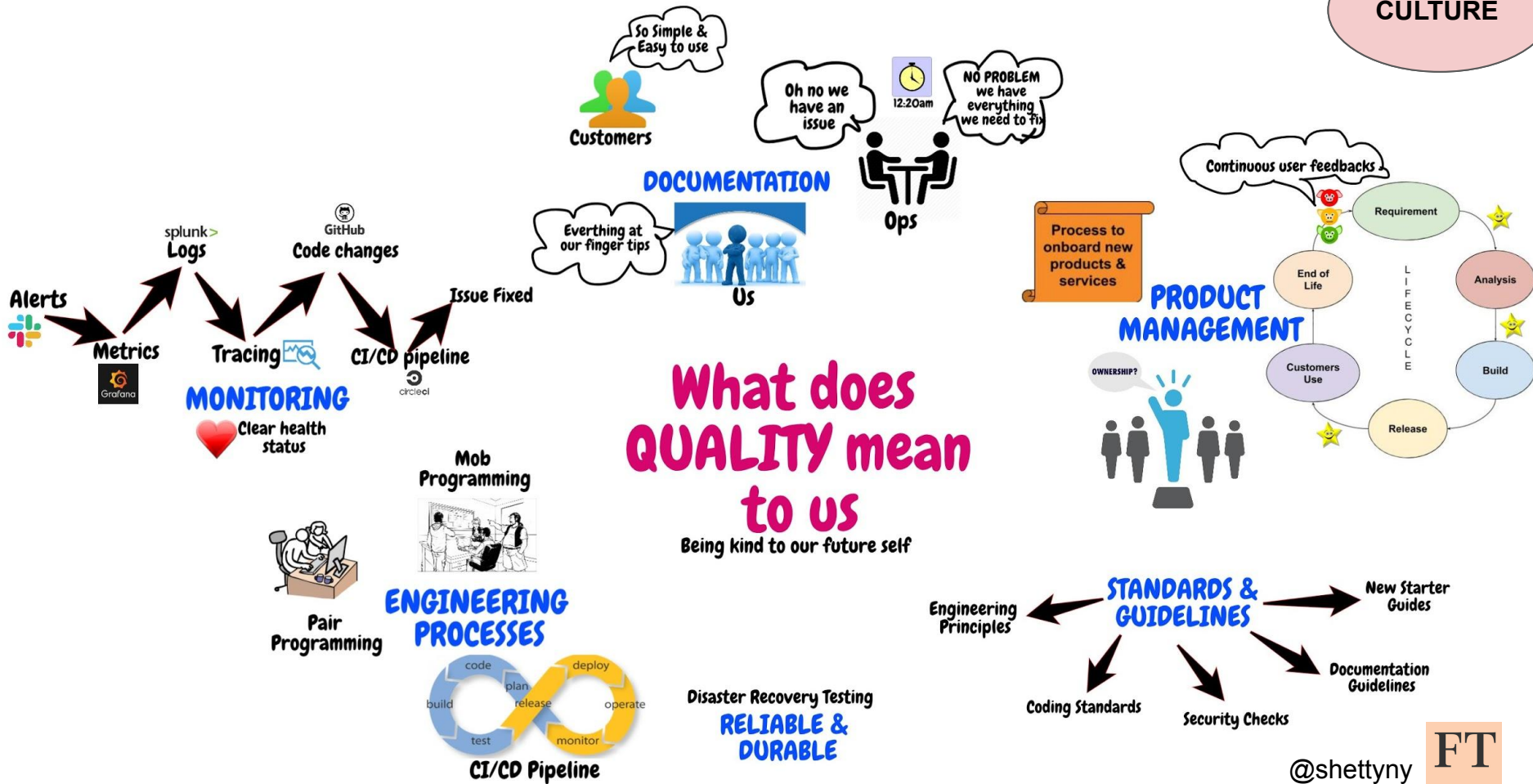
Notice who is blocked, help them and
encourage them to ask for help in future

Say that we approve others views



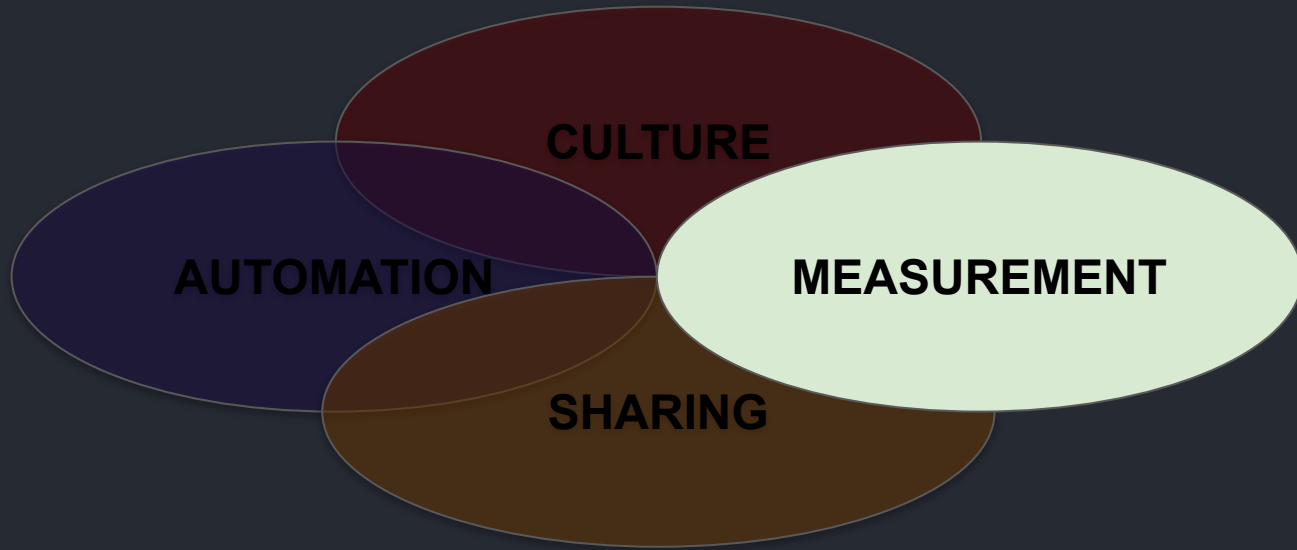
Teams defining their own quality standards

CULTURE



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Automated changelogs



Change API APP 10:16 AM



[Google Mangelator](#) was released in prod by [REDACTED].

circleCITag:

googleAppSync_deploy-prod_667



Change logged at 9:15 am UTC on Tue, 30 July 2019

[Leave feedback](#)

MEASUREMENT

An illustration of a hand holding a yellow pencil with a red eraser, pointing at a checklist. The checklist has two visible sections, each with two green checkmarks in black boxes and several horizontal lines representing text. The background is a solid purple color.

Audit Monitoring Alerts regularly

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MEASUREMENT

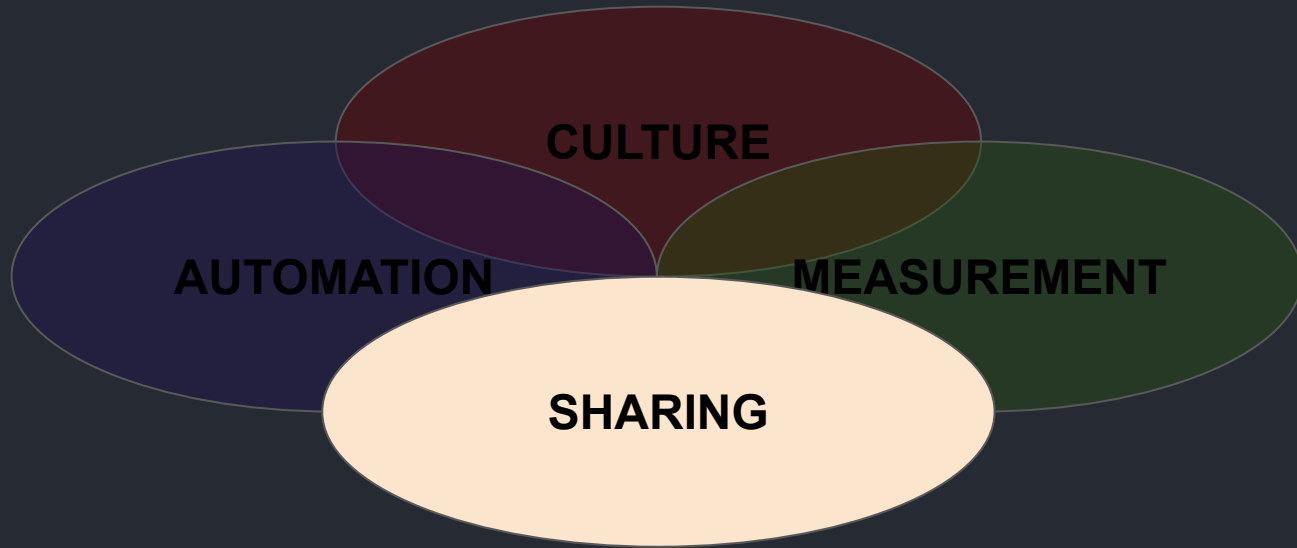
Gather Analytics of Service Usage

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Measurements are hard



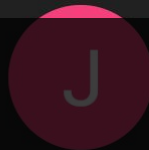


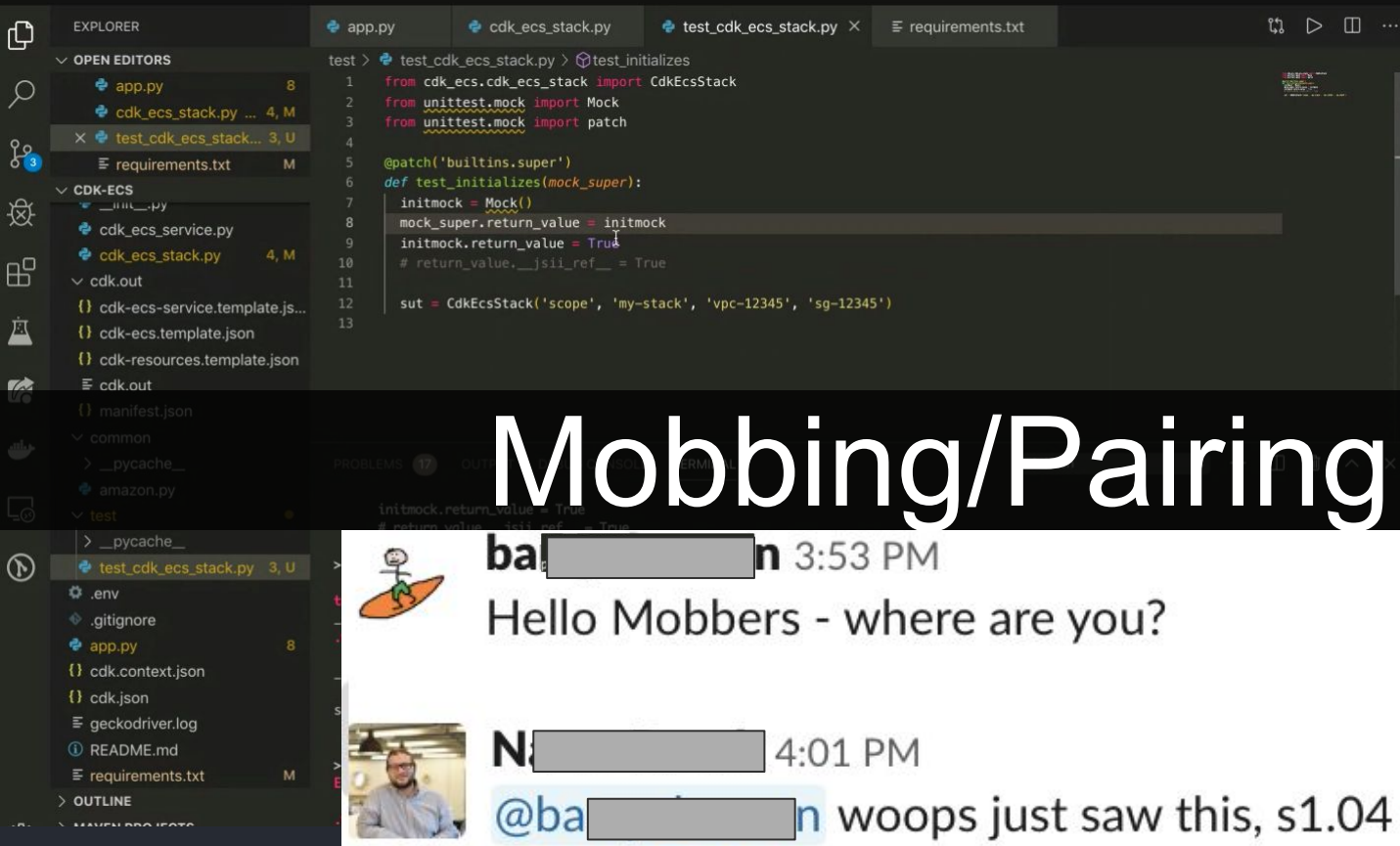
The screenshot shows a VS Code editor with the following components:

- EXPLORER:** A sidebar on the left showing the project structure. The 'test' directory is expanded, showing files like `__pycache__`, `test_cdk_ecs_stack.py` (selected), `.env`, `.gitignore`, `app.py`, `cdk.context.json`, `cdk.json`, `geckodriver.log`, `README.md`, `requirements.txt`, and `OUTLINE`.
- EDITOR:** The main workspace shows the `test_cdk_ecs_stack.py` file. The code includes imports for `CdkEcsStack`, `Mock`, and `patch`. A `@patch` decorator is used to mock `builtins.super`. The `test_initializes` function is defined, which initializes a `Mock` object and sets its `return_value` to `True`. The `sut` (System Under Test) is an instance of `CdkEcsStack` with specific parameters.
- PROBLEMS:** A sidebar on the right shows the error output. The error is an `AttributeError: 'bool' object has no attribute '__jsii_ref__'` occurring in `test/test_cdk_ecs_stack.py:12` at line 69 of `__call__` in `reference_map.register_reference`.

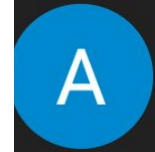
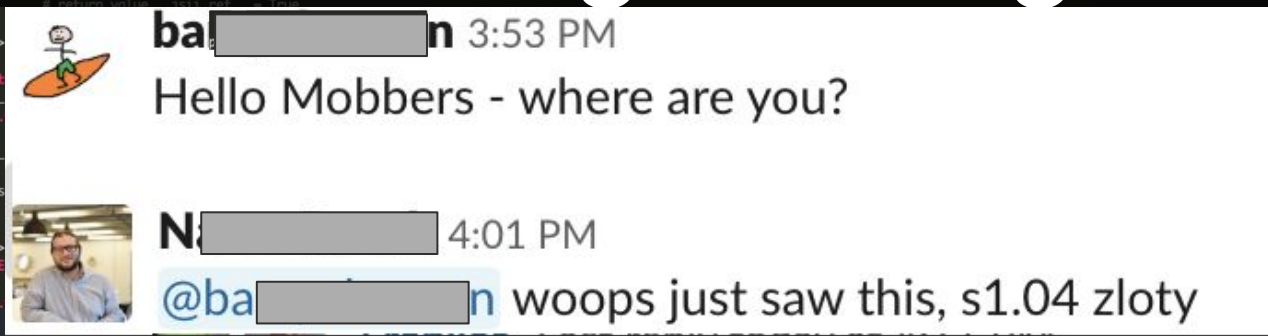


Mobbing/Pairing





Mobbing/Pairing



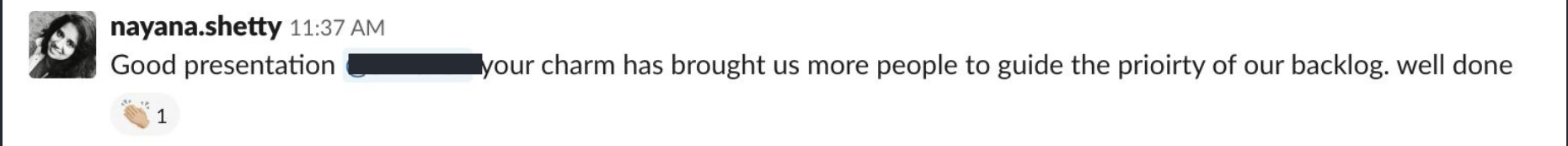
Showcases and Demos

SHARING

Showcases and Demos

#es-common-tooling Friday, August 16th

Friday August 16th



nayana.shetty 11:37 AM

Good presentation [REDACTED] your charm has brought us more people to guide the priority of our backlog. well done



@shettyny

FT

3. Sustaining the culture



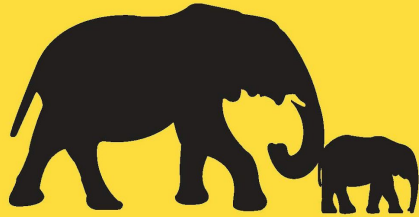
Empower the teams

RICHARD H. THALER

WINNER OF THE NOBEL PRIZE IN ECONOMICS

and CASS R. SUNSTEIN

WINNER OF THE HOLBERG PRIZE



Nudge

NEW YORK TIMES Bestseller

Improving Decisions About
Health, Wealth, and Happiness

"One of the few books . . . that fundamentally changes the way I think about the world." —Steven D. Levitt, coauthor of FREAKONOMICS

Use Nudge theory

@shettyyny




```
nayanashetty@NayanasMBP1344 ~ $ ssh 10.1.1.1
The authenticity of host '10.1.1.1 (10.1.1.1)' can't be established.
ECDSA key fingerprint is SHA256:HcvNa6M[REDACTED].
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.1.1.1' (ECDSA) to the list of known hosts.
```

```
*****
```

```
*****
```

```
*                                                                 *
```

```
*      FINANCIAL TIMES LTD COMPLIANCE MESSAGE                                                                 *
```

```
*                                                                 *
```

```
*      By logging into this computer system you are                                                                 *
```

```
*      agreeing to adhere to the Financial Times                                                                 *
```

```
*      Internet/Intranet and Electronic Communications                                                                 *
```

```
*      Policy.                                                                 *
```

```
*                                                                 *
```

```
*      Failure to adhere may result in disciplinary action, criminal                                                                 *
```

```
*      or legal action. These policies can be found at                                                                 *
```

```
*      https://sites.google.com/a/ft.com/insideft/policies                                                                 *
```

```
*                                                                 *
```

```
*      FT Linux Platform Guidelines can be found at                                                                 *
```

```
*      http://ft-satellite.ft.com/guidelines                                                                 *
```

```
*                                                                 *
```

```
*      Servers that are in breach of terms and conditions                                                                 *
```

```
*      set in the guidelines can be shutdown automatically.                                                                 *
```

```
*                                                                 *
```

```
*****
```

```
*****
```

```
Nayana.Shetty@10.1.1.1 password:
```

```
Creating directory '/var/tmp/Nayana.Shetty'.
```

```
Last login: Mon Apr 15 14:06:58 2019 from ip-10-1.1.1.1.eu-west-1.compute.internal
```

```
__|  __|_ )
_| (  /   Amazon Linux AMI
___|\\___|___|
```

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Automate positive behaviours



ID Bot APP 12:00 PM

This sprints actions are:

- Investigate / feedback availability of meeting rooms
- Stay focused on sprint goal & prioritise sprint goal tasks
- Decide when we should mob and when we should pair

This sprints goal is:

CircleCI pipeline for ECS cluster created

Automate positive behaviours

Automate positive behaviours



ID Bot APP 2:52 PM

nayanashettyft just edited this wiki page!

[What Does Quality Mean to Us](#)

sent by id-bot

Take time to test Disaster Recovery

DISASTER RECOVERY
WEEK NOV 2018



tl;dr

- The Journey is as important as reaching the destination

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- Testers and QAs are different

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- Using CAMS model fosters product quality

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- Sustaining the culture by Nudging empowered teams

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EXPERIMENT, RETROSPECT & KEEP AN OPEN MIND

Resources

- Accelerate book, state of devops report
 - <https://cloud.google.com/blog/products/devops-sre/the-2019-accelerate-state-of-devops-elite-performance-productivity-and-scaling>
- CAMS model by Damon Edwards and John Willis
- 5 WHY Technique
 - <https://kanbanize.com/lean-management/improvement/5-whys-analysis-tool/>
- Talk on Nudge theory: Influencing Empowered Teams by Sarah Wells
 - <https://www.youtube.com/watch?v=PWwDJEuTaLA>
- Medium post on “Are we ready for a disaster” by Nayana Shetty
 - <https://medium.com/ft-product-technology/are-we-ready-to-recover-from-a-disaster-957931551e73>

We Are **HIRING**

Cloud Engineer - Cloud Enablement Team
Visit us @ <https://roles.ft.com>

Thank You

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